



Chapter 2

Open Space Inventory and Assessment

Project Scope

In order to create an open space plan for the North Branch watershed, the project team needed to examine closely all the land in this urbanized and fragmented landscape. The first step in the project was to complete an open space inventory. Property parcel maps, assessor records and aerial photographs were used to identify both open and partially open land parcels in an impartial and accurate manner, thereby providing a factual basis for planning and management recommendations.

'Open' Parcel

Parcel with no built structures or impervious cover (*Figure 2.1*).

'Partially Open' Parcel

Parcel with a structure (building, parking) on a relatively small part of the parcel thus still offering some potential for stormwater management, a buffer next to existing open space, or possible greenway and trail connections. Such parcels are typically partly-developed industrial sites, or institutions (churches, schools, etc.) with extensive grounds. In some cases these were also parklands largely covered with recreation centers, parking lots, and the like (*Figure 2.1*).

An example of partially open parcels would be the Commonwealth Edison transmission corridors: while these are technically "developed" with transmission lines, they remain largely open space with several exceptions where some parcels appear to have been leased for parking, etc.

Partially open parcels may also be private residences with acreage exceeding the surrounding minimum zoning.



Figure 2.1: Open/Partially Open Parcels

Inventory Findings — Number, Size and Estimated Value of Parcels

Research found that there are approximately 71,732 parcels of land in the North Branch watershed in Lake and Cook counties. Some 25,924 parcels are in Lake County and 45,778 parcels are in Cook County. Of these parcels, 4,338 are open and 946 partially open (*Figure 2.2*).

Table 2.1: Acreage of Open Space in Watershed

Portion of Study Area		Total area (acres)	Open Parcels		Partially Open Parcels	
			Area (acres)	Percent of study area	Area* (acres)	Percent of study area
County	Lake	32,241	10,274	32%	3,105	10%
	Cook	28,417	6,688	24%	2,994	11%
Subwatershed	West Fork	18,383	3,545	19%	1,941	11%
	Middle Fork	21,762	6,860	32%	1,609	7%
	Skokie River	20,513	6,557	32%	2,549	12%
Watershed		60,658	16,962	28%	6,099	10%

* Note that the area calculation for partially open parcels is for the entire parcel (including the developed portion).

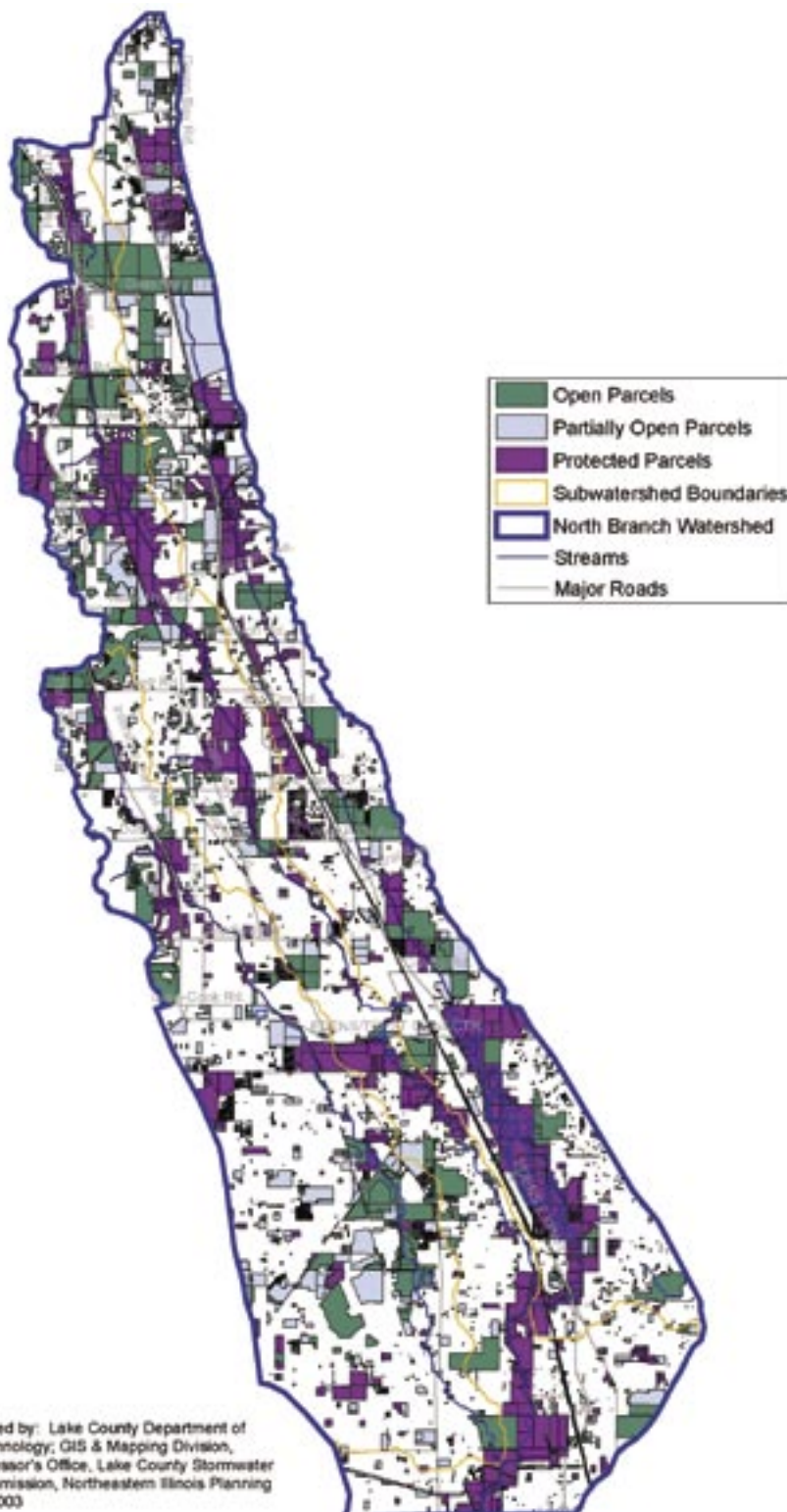
As indicated in Table 2.1, the open space inventory identified 16,962 acres of open space (28% of the watershed area). This amount is very close to one of the primary objectives of the open space management plan, which is to protect 15,162 acres in the watershed as open space (25% of the watershed). It is clear from this comparison that the partially open parcels (6,099 acres) identified in the inventory will play a critical role in meeting the “25%” objective. It is also clear that achieving this objective will require immediate and extensive action (given that the 1990 population in the Lake County portion of the watershed is projected to increase 45% by 2020). The protection status of identified open space is discussed later in this chapter in the section titled “Protection Status/Threats to Protection.”

It is interesting to note that the acreage of partially open parcels in each county is nearly equal: 3,105 acres in Lake County and 2,994 acres Cook County. This is surprising given the density of development in Cook County and the differences in average parcel size, discussed below.

Subwatershed boundaries provide a different perspective for assessing open space. These findings, also included in Table 2.1, indicate that the Skokie and Middle Fork subwatersheds are similar in total area and contain the same percentage of open space (32%). The West Fork is slightly smaller in total area than the other two watersheds, but contains much less open space (19%).

Figure 2.2: Open Space Inventory

North Branch Chicago River Watershed



All three subwatersheds contain a sizeable number of partially open parcels. Again, these parcels will be of particular importance in achieving the “25%” objective discussed above.

Table 2.2: Parcel Size and Estimated Value

Open Parcels							
Portion of Study Area	Parcel Count	Total Area (acres)	Parcel Size (acres)		Estimated Value (\$s)		
			Maximum	Average	Maximum	Average	Total
Lake	2,453	10,274	149.36	4.19	1,338,482	81,257	122,616,106
Cook	1,885	6,688	184.68	3.55	6,156,256	134,578	163,377,206
Watershed	4,338	16,962	184.68	3.87	7,494,738	215,835	285,993,312
Partially Open Parcels							
Portion of Study Area	Parcel Count	Total Area (acres)	Parcel Size (acres)		Estimated Value (\$s)		
			Maximum	Average	Maximum	Average	Total
Lake	297	3,015	295.38	10.46	7,941,806	516,339	44,405,163
Cook	649	2,994	128.20	4.60	18,828,037	575,398	233,036,206
Watershed	946	6,099	295.38	7.53	26,769,843	1,091,737	277,441,369

Land values in Lake County are estimated by dividing the assessed value of a parcel by 0.3333 to approximate the market value.
Land values in Cook County are estimated by dividing the assessed value of a parcel by 0.16 to approximate the market value.

While the average size of open parcels in Lake County is only 15% larger than Cook County, the average size of partially-open parcels in Lake County is more than twice as large, even though the acreage of partially open parcels is virtually the same for both counties (*Table 2.2*). This is due in part to the presence of large corporate campuses in Lake County.



Figure 2.3: Bobolink on the Middlefork Savanna (June, 2003)

Average parcel size statistics can be misleading and should be interpreted with care. Several large parcels can “skew” this value. For example, in Cook County there are many small open parcels but the large open parcels comprising forest preserve district lands and golf courses “raise” the average size. Perhaps more important than parcel size is the concentration of open space. Where open space is concentrated, there is greater opportunity to protect water quality and aggregate parcels into viable conservation habitat. An example of this is the Middlefork Savanna (Lake Forest, Illinois) where contiguous parcels are managed as one. The result of such an approach is the return of area-sensitive species, such as the bobolink, a neotropical migratory bird that has been absent from the Middlefork Savanna for 30 years (*Figure 2.3*). The northern third of the watershed contains a significant concentration of open space parcels and provides similar opportunities.

The estimated land values included in *Table 2.2* provide an “order of magnitude”

and do not represent actual cost. Property values depend on a number of factors and must be assessed on a parcel-by-parcel basis.

Inventory Findings — Location

In descriptive terms, the North Branch watershed can be divided into three sections according to identified open space (*Figure 2.4*). The findings in all three sections can be directly correlated to development pressures emanating from the Chicago region.

Southern Section

Dempster Street — Lake-Cook Road: Open space in the watershed from Dempster Street to Lake-Cook Road (the Cook County portion of the watershed) is characterized by large parcels having permanent long-term protection (forest preserves, park districts), and other parcels that are often taken for granted as permanent open space but are actually unprotected, such as private golf clubs. Most of these lands were set aside in the early 1900s, and mostly along the Skokie River, the only suburbanized part of the watershed at that time.

Some limited additional open space opportunities remain. In addition, this and the following central area also contain a number of small, isolated open and partially open parcels that could serve a variety of functions, including trail connections, community parks, and local stormwater management sites.

Central Section

Lake-Cook Road — Illinois Route 60: The central section, between Lake-Cook Road and Illinois Route 60, also contains substantial large tracts of open space, again golf courses dating from the early 1900s and more recent (1970–2000) forest preserve and park purchases. Additional open space protection opportunities remain, including several parcels of substantial size.

Northern Section

Illinois Route 60 — North Branch Headwaters: The northern third of the watershed, from Route 60 to the headwaters, also contains golf courses, forest preserves, and other public lands, mostly preserved in the last 50 years. In addition, several local land trusts own open space parcels.

The opportunity for substantial additional open space preservation also exists in this area, including several tracts of over 100 acres.

It should also be noted that the farther north one goes in the watershed the better the quality of the remaining unprotected open space. The biodiversity study and extensive fieldwork, described shortly, confirm this.

Vacant Lots

During the parcel inventory a number of very small open space parcels were found, usually in older neighborhoods. In many cases an owner may have bought, as an example, an additional 10' of a neighboring lot, or two owners may have bought and split a lot. Thus while the parcel had no improvements on it, it was clearly part of a homesite and distinguished as separate only in the assessor records.

Some Recent Changes to Cook County Open Spaces in the Watershed

The 1,120-acre Glenview Naval Air Station was an opportunity for large-scale open space protection when it was decommissioned. Although no agency chose to acquire the entire base for open space, the mixed-use redevelopment by the Village of Glenview maintained 21% of the site (236 acres) as open space, which includes golf courses and public open space including a native prairie and a naturalized lake.

Also in Cook County, Loyola Academy recently converted the nearby Glenview landfill into playing fields creating recreational open space.

Figure 2.4: Open Space Trends

North Branch Chicago River Watershed

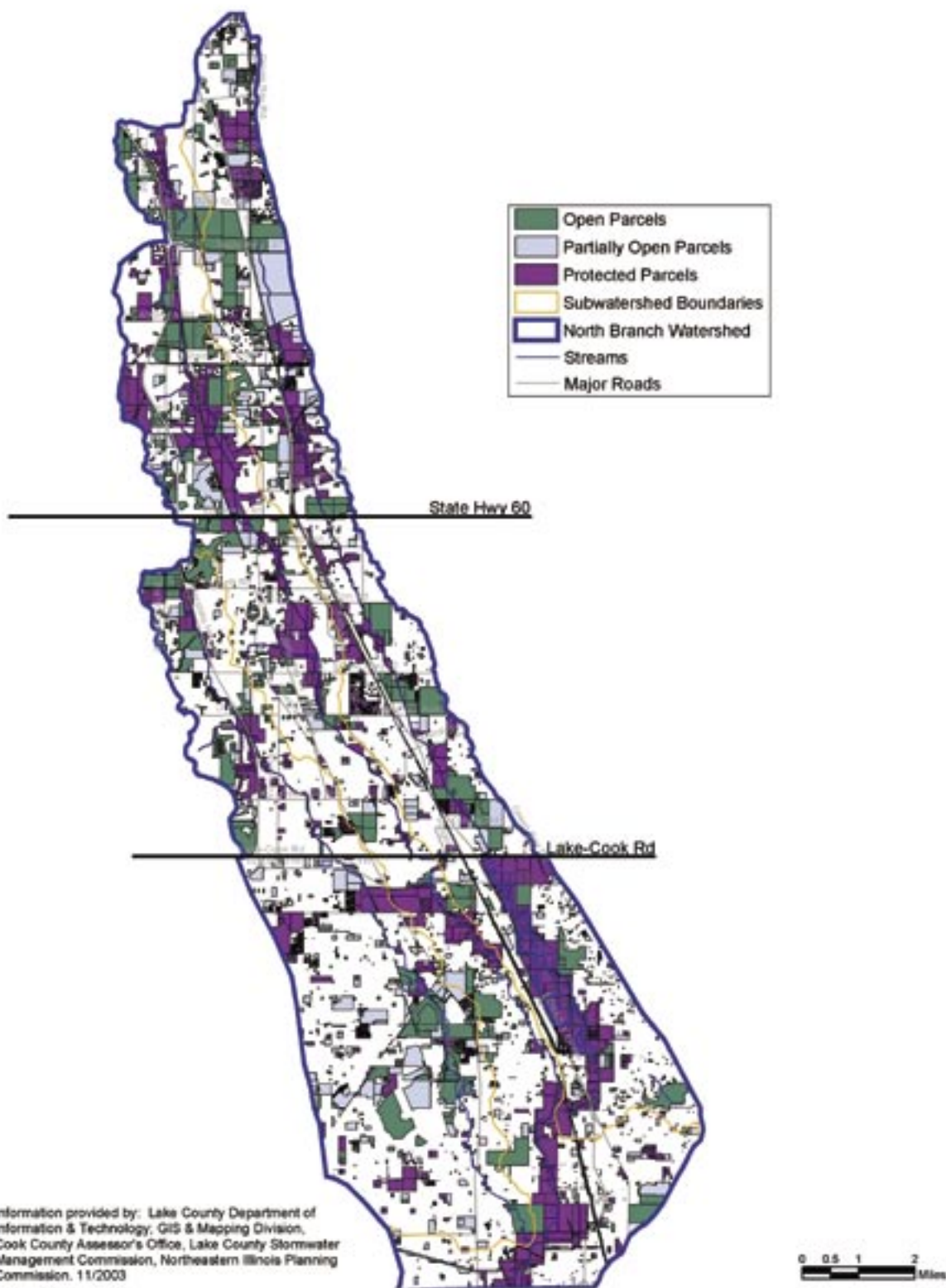
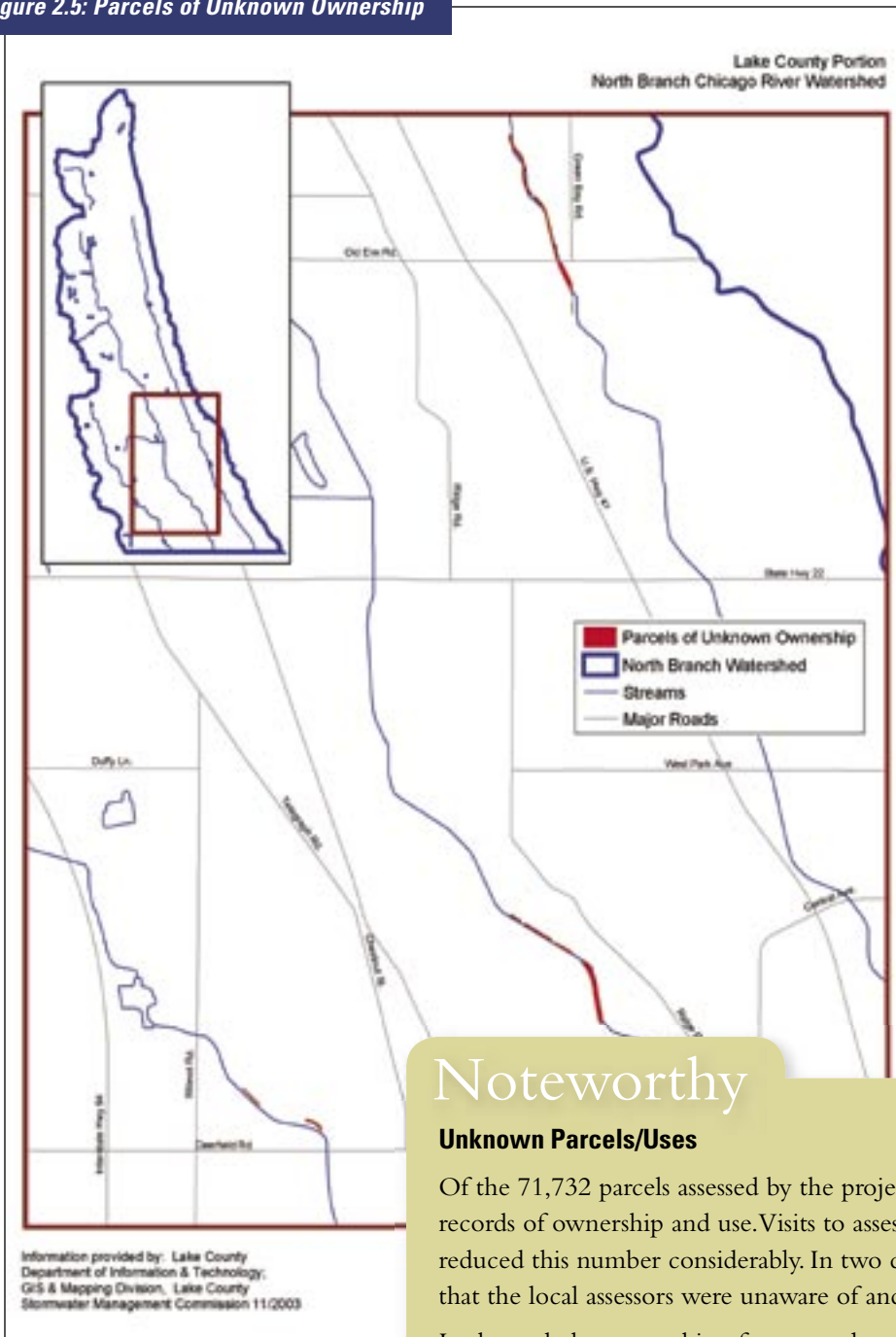


Figure 2.5: Parcels of Unknown Ownership



Noteworthy

Unknown Parcels/Uses

Of the 71,732 parcels assessed by the project team, 39 initially showed no records of ownership and use. Visits to assessor offices and detective work reduced this number considerably. In two cases, research found true errors that the local assessors were unaware of and planned to rectify.

In the end, the ownership of ten parcels remains unknown (*Figure 2.5*). All are in Lake County, and all are along the forks of the North Branch and include the streams themselves. Their combined area is 11.45 acres. These parcels are actually part of the streams themselves. None have a property identification number (PIN) and therefore show no ownership. They rather appear to be rights-of-way for the river itself, similar to dedicated street rights-of-way. All are parts of subdivisions at least 50 years old. These parcels may be useful as trail connections.

Inventory Findings — Owner Type

An ownership classification scheme was developed as part of the inventory process (*Tables 2.3–2.4 and Figure 2.6*). Parcels were assigned to these categories by reviewing ownership and tax records.

Some interesting general observations appear from the statistics and map:

- The owner types with the highest percentage of open space (open parcels) in the watershed are forest preserve districts (29%, or 4,931 acres) and private owners (24%, or 4,095 acres).
- Private ownership accounts for 976 acres of open space (open parcels) in Cook County and 3,119 acres in Lake County.
- Forest preserve districts own 46% of the open space (open parcels) in Cook County and only 18% of the open space in Lake County (3,089 acres vs. 1,842 acres).
- Private club holdings are about the same in both counties.
- Park district holdings are also the same, although Cook County is more densely populated.
- Some owner types own more partially open parcels than open parcels. For example, utility holdings in the watershed are 21 acres (open parcels) and 432 acres (partially open parcels). School district holdings in the watershed are 205 acres (open parcels) and 822 acres (partially open parcels).
- Large privately owned parcels tend to be in the western and northern sections of the watershed.

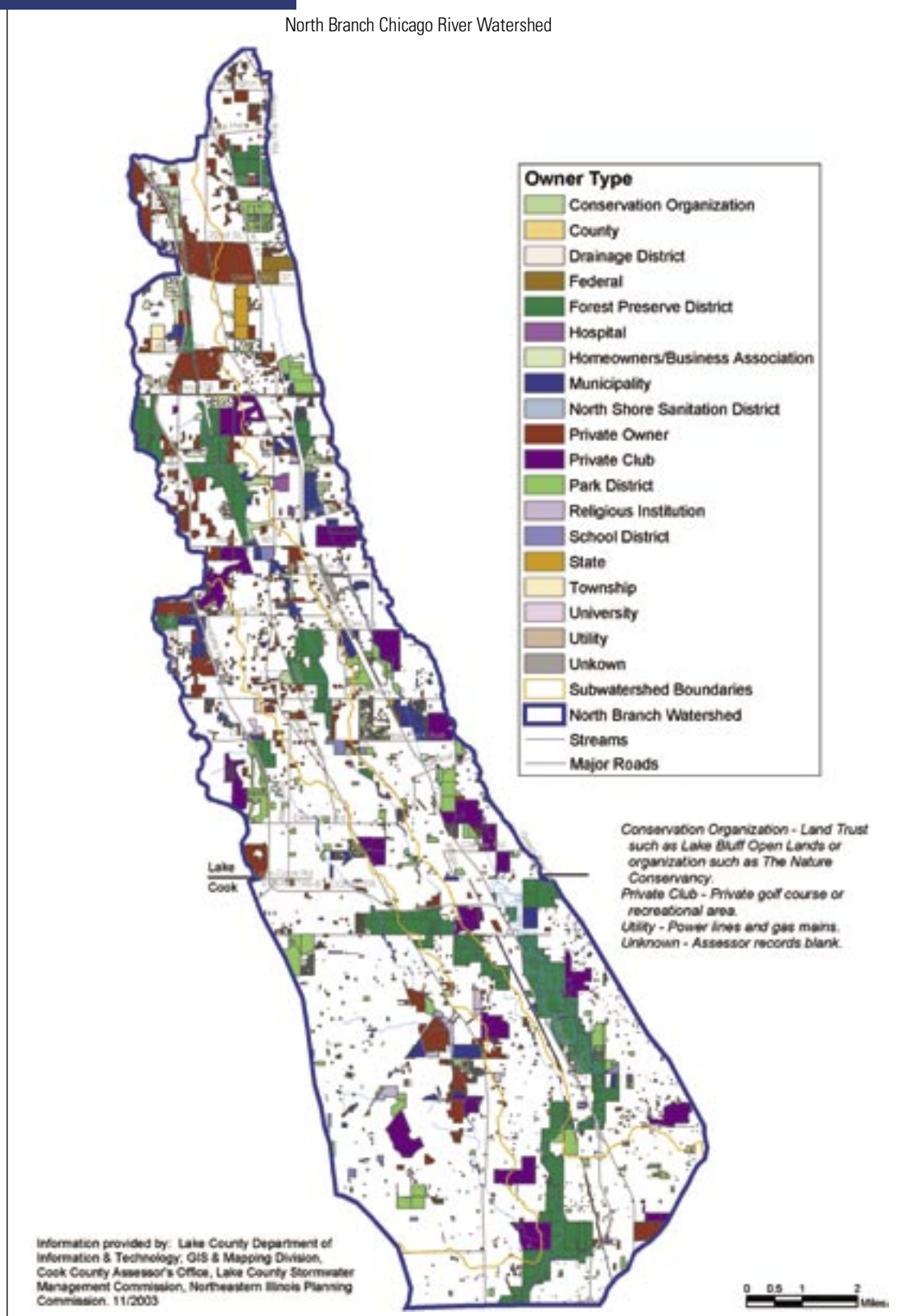
Table 2.3: Owner Type Summary for Open Parcels

Owner Type	Percent of open space parcels owned in:			Acres of open space owned in:		
	Lake	Cook	Watershed	Lake	Cook	Watershed
Private						
Hospital	0.68%	0.03%	0.43%	70.14	2.15	72.29
Homeowner/Business Assoc.	6.07%	1.08%	4.10%	623.72	72.51	696.23
Conservation Organization	2.70%	0.15%	1.65%	277.36	2.44	279.80
Private	30.36%	14.59%	24.15%	3,119.39	976.05	4,095.44
Private Club	15.41%	17.50%	16.23%	1,583.39	1,170.24	2,753.63
Religious Institution	0.55%	3.09%	1.55%	56.29	206.79	263.08
University	0.45%	0.09%	0.31%	46.59	6.04	52.63
Utility	0.09%	0.18%	0.12%	9.06	11.78	20.84
Public						
Forest Preserve	17.93%	46.18%	29.07%	1,841.73	3,088.89	4,930.62
Cook County	0.00%	0.04%	0.06%	0	9.78	9.78
Lake County	0.09%	0.00%	0.05%	9.04	0	9.04
Lake County Drainage District	0.01%	0.00%	0.00%	0.60	0	0.60
Municipality	9.35%	4.69%	7.51%	960.25	313.63	1,273.88
North Shore Sanitary District	0.01%	0.00%	0.01%	1	0	1.00
Park District	9.91%	10.81%	10.26%	1,017.85	722.79	1,740.64
School District	1.08%	1.51%	1.26%	111.85	101.23	213.08
State	2.00%	0.00%	1.21%	205.34	0.00	205.34
Township	0.79%	0.01%	0.48%	81.43	0.44	81.87
Federal	1.40%	0.05%	0.87%	143.78	3.18	146.96
Other						
Unknown	1.12%	0.00%	0.68%	114.92	0.09	115.01
	100%	100%	100%	10,273.73	6,688.13	16,961.8

Table 2.4: Owner Type Summary for Partially Open Parcels

Owner Type	Percent of open space parcels owned in:			Acres of open space owned in:		
	Lake	Cook	Watershed	Lake	Cook	Watershed
Private						
Hospital	4.12%	2.91%	3.53%	128.09	87.07	215.16
Homeowner/Business Assoc.	0.00%	0.80%	0.39%	0	23.80	23.80
Conservation Organization	0.00%	0.00%	0.00%	0	0	0.00
Private	42.41%	25.95%	34.33%	1,317.03	776.82	2,093.85
Private Club	4.16%	3.23%	3.71%	129.26	96.72	225.98
Religious Institution	1.76%	10.95%	6.27%	54.72	327.66	382.38
University	0.63%	0.36%	0.50%	19.44	10.83	30.27
Utility	9.16%	4.95%	7.10%	284.4	148.31	432.71
Public						
Forest Preserve	0.00%	10.41%	5.11%	0	311.51	311.51
Cook County	0.00%	0.47%	0.23%	0	14.03	14.03
Lake County	0.48%	0.00%	0.24%	14.80	0	14.80
Lake County Drainage District	0.00%	0.00%	0.00%	0	0	0.00
Municipality	1.53%	11.05%	6.20%	47.62	330.69	378.31
North Shore Sanitary District	1.69%	0.00%	0.86%	52.51	0	52.51
Park District	3.32%	12.26%	7.71%	103.20	366.99	470.19
School District	13.04%	13.93%	13.48%	404.98	416.94	821.92
State	0.16%	0.12%	0.14%	4.94	3.58	8.52
Township	0.00%	0.00%	0.00%	0	0.13	0.13
Federal	17.08%	2.62%	9.98%	530.38	78.47	608.85
Other						
Unknown	0.45%	0.00%	0.23%	13.86	0	13.86
	100%	100%	100%	3,105.24	2,993.54	6,098.78

Figure 2.6: Owner Type of Open Parcels



Inventory Findings — Public/Private Ownership

Public/private ownership was distilled from owner type information (*Table 2.5 and Figure 2.7*).

Some general observations are:

- In Lake County, most of the open space (56%) is in private ownership; in Cook County the opposite is true, most of the open space (63%) is in public ownership.
- Highly urbanized Cook County still contains 2,448 acres of open space in private ownership.

Table 2.5: Public/Private Ownership

Open Parcels	Lake County		Cook County		Watershed	
Ownership	Percent of open space	Area (acres)	Percent of open space	Area (acres)	Percent of open space	Area (acres)
Private	56%	5,785.94	37%	2,448	49%	8,233.94
Public	43%	4,372.87	63%	4,239.93	50%	8,612.8
Unknown	1%	114.92	0%	0.2	1%	115.12
	100%	10,273.73	100%	6,688.13	100%	16,961.86
Partially Open Parcels	Lake County		Cook County		Watershed	
Ownership	Percent of open space	Area* (acres)	Percent of open space	Area* (acres)	Percent of open space	Area* (acres)
Private	60%	1,856.56	49%	1,469.89	55%	3,326.45
Public	40%	1,234.84	51%	1,522.34	45%	2,757.18
Unknown	0%	13.84	0%	1.31	0%	15.15
	100%	3,105.24	100%	2,993.54	100%	6,098.78

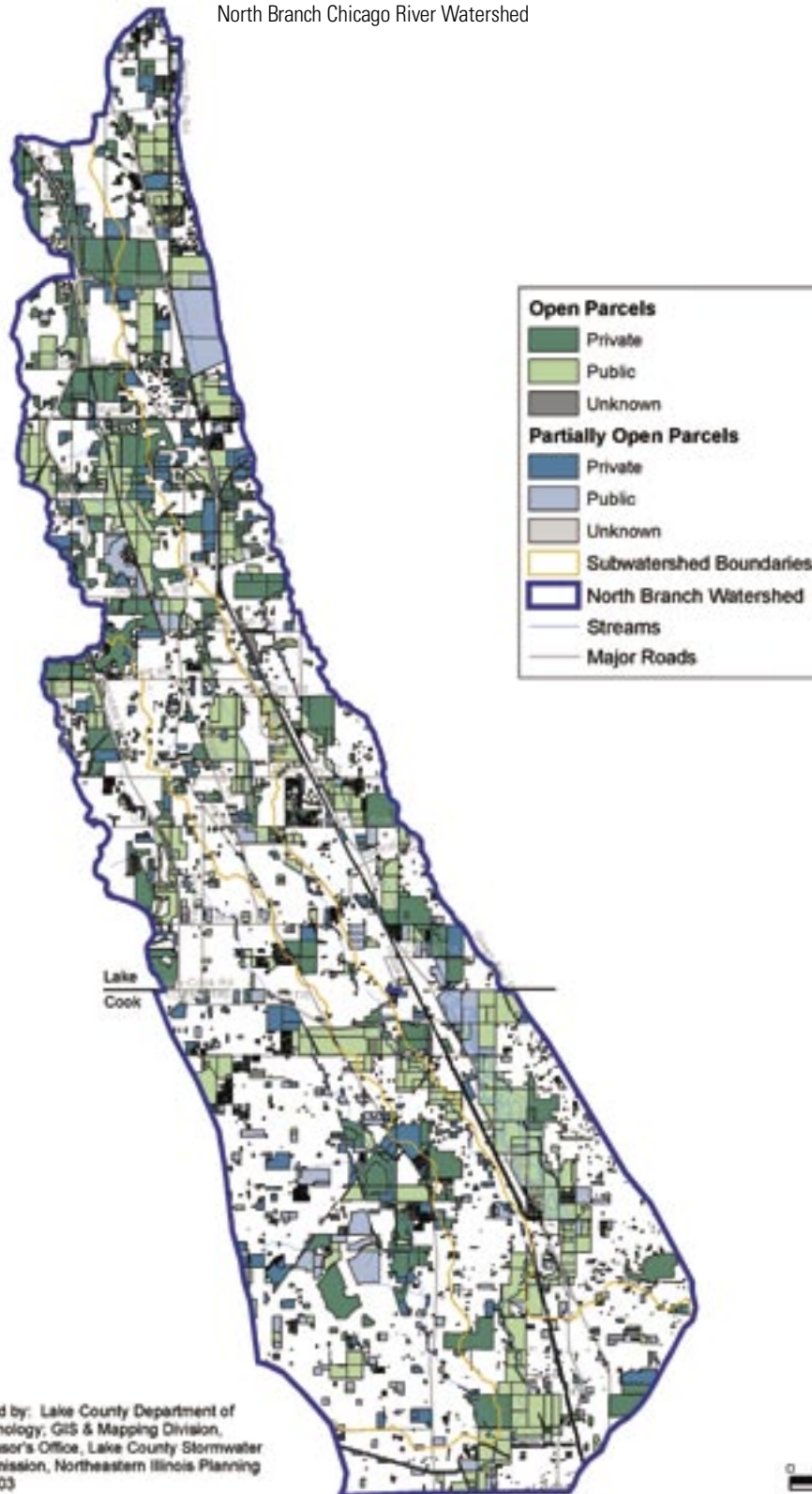
*Private includes: Hospital, Homeowner/Business Association, Conservation Organization, Private, Private Club, Religious Institution, University, Utility

*Public includes: Forest Preserve District, Lake and Cook County, Lake County Drainage District, Municipality, North Shore Sanitary District, Park District, School District, State, Township, Federal

* Note that the area calculation for partially open parcels is for the entire parcel (including the developed portion).

Figure 2.7: Public/Private Ownership

Open Space Inventory
North Branch Chicago River Watershed



Inventory Findings — Protection Status/Threats to Protection

The conversion of open space to other uses is the single biggest threat to the North Branch watershed. This conversion generates increased runoff, water quality degradation, and loss of wildlife habitat, habitat connectivity and “sense of place” within the watershed.

The central purpose of the open space inventory was to identify all “at risk” (developable) open space: parcels still open or partially open, but not protected as open space and therefore subject to conversion to other uses (*Table 2.6*).

The highest level of protection is provided by the Illinois Nature Preserves Commission to parcels dedicated as Illinois Nature Preserves. Lands in this program can only be sold with the consent of the governor. Parcels owned by park districts, forest preserve districts, the Libertyville Township Open Space District, and land trusts also have substantial protection, since these organizations have the preservation of open space as their central mission. For instance, forest preserve districts can only sell land with the consent of the state legislature.

Other parcels have conservation easements on them, which again afford a high level of protection. The Lake Forest Open Lands Association holds conservation easements on nearly 50 acres in the watershed. Finally, miscellaneous parcels protected by deed restrictions were found, such as common open space belonging to homeowners associations and business parks.

Conservation easements and deed restrictions were only mapped if this information could be discerned by owner contact and fieldwork.

The rest of the open and partially open parcels not identified in one of the categories above are “at risk.” This means that they currently have no protection and may be developed at any time based on their underlying zoning. Most of these parcels are privately owned (*Figure 2.8*).

Illinois Nature Preserves Commission (INPC)

Created in 1963 by Governor Kerner, the INPC is charged to preserve, protect, and defend natural areas and endangered species habitat for the benefit of the public. The dedication of land as an Illinois Nature Preserve protects it forever for future generations. In creating the INPC, Illinois became the first state to develop a comprehensive statewide program for permanently protecting outstanding natural areas.

Sidebar

Noteworthy

Is it really protected?

Unfortunately, a good deal of the existing open space is taken for granted. In actual fact certain public and quasi-public bodies — private golf courses, school districts, churches, hospitals, and other institutions, including the Great Lakes Naval Training Center — owning extensive open space can, and do, dispose of these lands for other purposes as they see fit. Thorngate Country Club, for instance, was located just to the west of the North Branch watershed at Riverwoods and Deerfield Roads. It had been in business for decades and generally taken for granted as permanent open space — until 1991, when it was developed with over 200 houses. In the watershed, part of the Highland Park Country Club was also sold for condominium development in 1998.

Each of the 25 municipalities in the watershed received detailed maps showing all open and partially open parcels as well as protected lands. They were asked to identify additional lands they would like to see protected, and indicate any open parcels included in the inventory that are already developed or scheduled for development. A total of 17 municipalities responded; all additions and corrections were incorporated into the parcel inventory. Refer to Appendix A (Municipal Coordination and Feedback) for a summary of outreach efforts.

Table 2.6: Protection Status by County and Watershed

Open Parcels						
	Lake County		Cook County		Watershed	
Protection Status	Percent	Area (acres)	Percent	Area (acres)	Percent	Area (acres)
Protected	45%	4,636.77	58%	3,891.06	50%	8,527.83
Unprotected	55%	5,624.27	42%	2,796.99	50%	8,421.26
Unknown	0%	12.68	0%	0.09	0%	12.77
	100%	10,273.72	100%	6,688.14	100%	16,961.86

Partially Open Parcels						
	Lake County		Cook County		Watershed	
Protection Status	Percent	Area* (acres)	Percent	Area* (acres)	Percent	Area* (acres)
Protected	4%	115.80	23%	702.43	23%	818.23
Unprotected	96%	2,989.44	77%	2,291.11	77%	5,280.55
	100%	3,105.24	100%	2,993.54	100%	6,098.78

Protected lands include Forest Preserve Districts, State Nature Preserves, Township Open Space, Park Districts, Homeowners/Business Associations, and Land Trusts.

* Note that the area calculation for partially open parcels is for the entire parcel (including the developed portion).

The open space inventory identified 4,338 open space parcels (16,961.86 acres). Of this, 1,103 parcels (8,527.83 acres or 14.1% of the watershed) are considered protected (*Table 2.6, Figure 2.8*). In order to achieve the plan objective and protect 25% of the watershed (15,164.5 acres) as open space, an additional 6,636.67 acres must be protected (out of the remaining 8,421.26 acres). It is important to note that in addition to the protected open parcels, 111 partially open parcels (approximately 818.23 acres) are also protected (*Figure 2.8*).

As mentioned earlier in this chapter, subwatershed boundaries provide a different perspective for assessing open space and defining management needs. Table 2.7 shows protection status of open and partially open parcels by subwatershed. General observations are as follows:

West Fork

Of the three subwatersheds, the West Fork contains the least amount of open space (3,546 acres or 19% of the subwatershed) and only 35% (1,226.75 acres) of this is protected (open parcels). In order to achieve the “25% as open space” objective in this subwatershed, an additional 3,369 acres must be protected — this would mean

protecting all of the unprotected open parcels and approximately 54% (1,052.96 acres) of the partially open parcels. Note that approximately 247.53 acres of partially open parcels are already protected.

Middle Fork

The Middle Fork contains a significant amount of open space (6,859 acres), and 57% (3,920.17 acres) of this is protected. In order to achieve the “25%” objective, 52% (1,520.33 acres) of the remaining 2,936.62 acres of open space (open parcels) must be protected. Note again that there are approximately 180.18 acres of protected partially open parcels.

Skokie River

Like the Middle Fork, the Skokie River contains a significant amount of open space (6,557 acres); 52% (3,380.93 acres) of this is protected. An additional 1,747.32 acres (out of the remaining 3,168.60 acres) must be protected in order to achieve the “25%” objective. There are approximately 390.53 acres of protected partially open parcels.

Table 2.7: Protection Status by Subwatershed

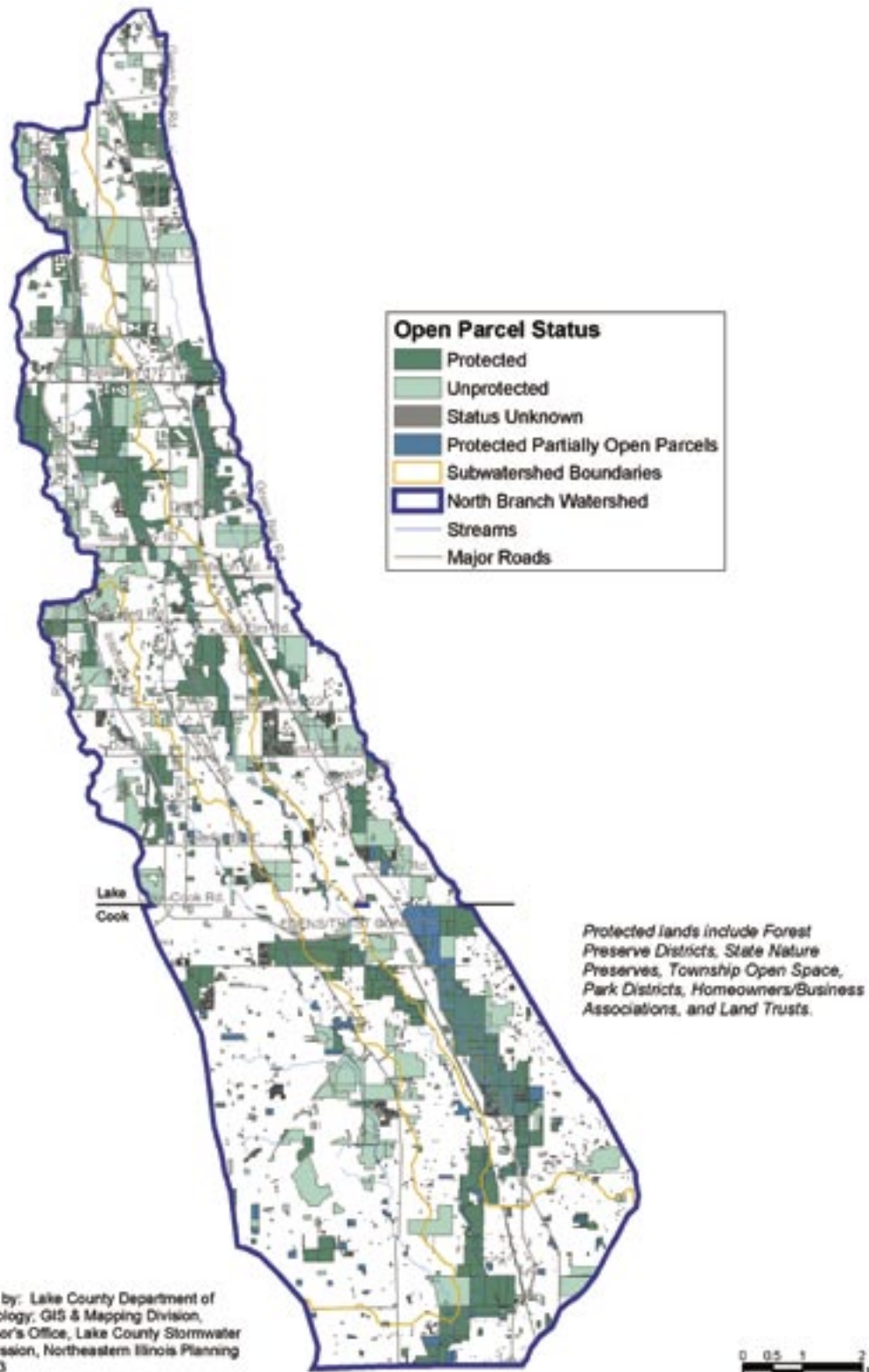
Open Parcels						
	Subwatershed					
	West Fork		Middle Fork		Skokie River	
Protection Status	Percent of open space	Area (acres)	Percent of open space	Area (acres)	Percent of open space	Area (acres)
Protected	35%	1,226.75	57%	3,920.17	52%	3,380.93
Unprotected	65%	2,316.04	43%	2,936.62	48%	3,168.60
Unknown	0%	2.34	0%	3.09	0%	7.34
	100%	3,545.13	100%	6,859.88	100%	6,556.87
Partially Open Parcels						
	Subwatershed					
	West Fork		Middle Fork		Skokie River	
Protection Status	Percent of open space	Area* (acres)	Percent of open space	Area* (acres)	Percent of open space	Area* (acres)
Protected	13%	247.53	11%	180.18	15%	390.53
Unprotected	87%	1,693.65	89%	1,428.82	85%	2,158.08
	100%	1,941.18	100%	1,609	100%	2,548.61

“Protected” lands include: Forest Preserve Districts, State Nature Preserves, Libertyville Township Open Space, Park Districts, Homeowners/Business Associations, and Land Trusts.

*Note that the area calculation for partially open parcels is for the entire parcel (including the developed portion).

Figure 2.8: Protection Status

Open Space Inventory
North Branch Chicago River Watershed



Inventory Findings — Recreational Use Type

Many of the identified public open space parcels (and some private open space parcels) support a wide range of active and passive recreation activities (*Figure 2.9*). These uses are generally defined as:

Active (Primarily Recreation): High-activity recreational uses traditionally associated with local park districts and requiring extensive maintenance and care. Examples include playfields, tennis courts, swimming pools, playgrounds, and golf courses.

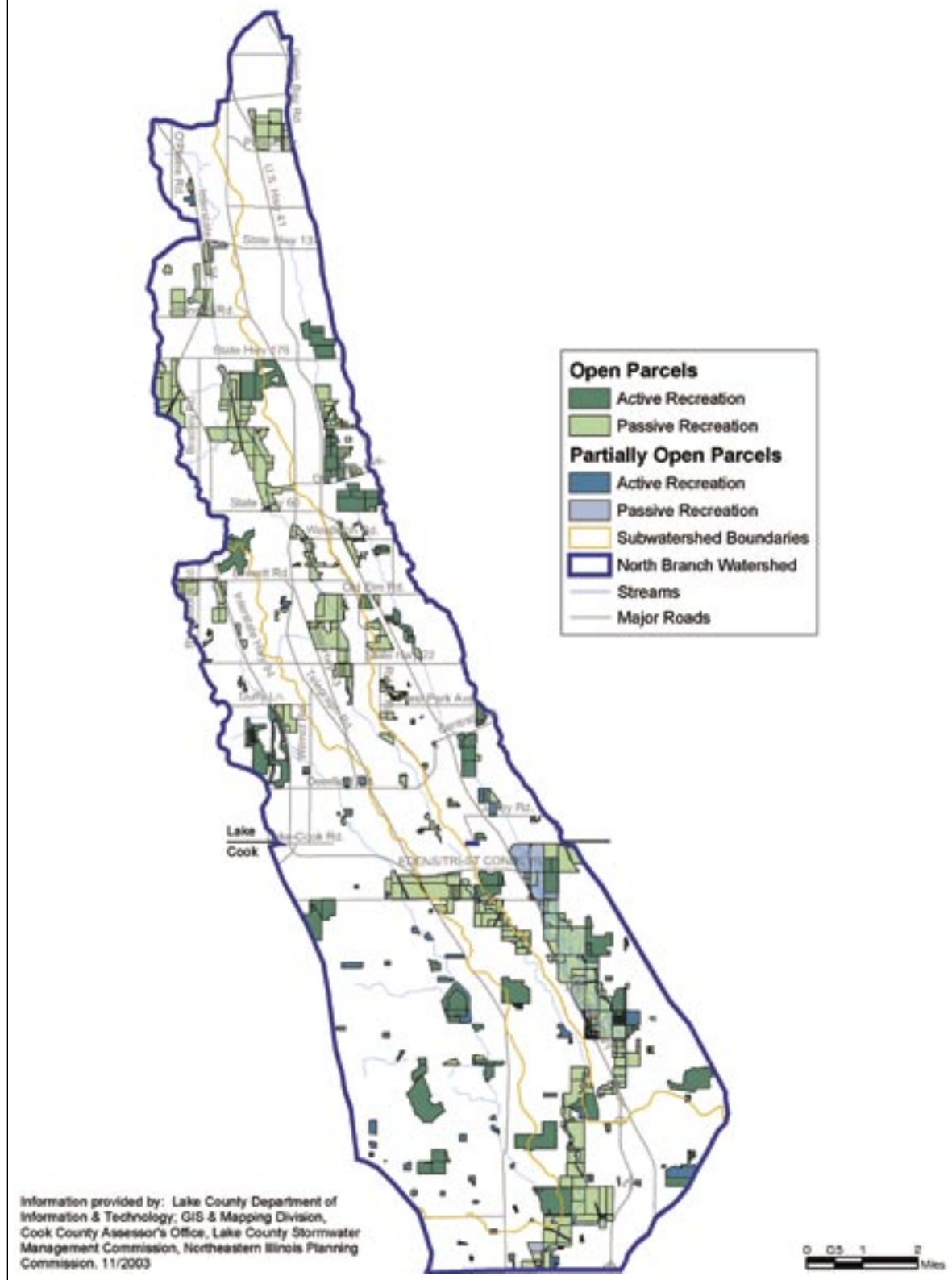
Passive (Primarily Conservation): Diffuse, low-impact recreational uses traditionally associated with forest preserves, land trust holdings, and nature centers, that may include hiking/cycling trails, picnic groves, fishing lakes, and the like.

Again, some key general observations:

- The bulk of the public recreational open space parcels arrange themselves in north-south formations, generally following the streams in the subwatersheds.
- There are few public open space connections running east-west in the watershed.
- Public open space corridors are more prevalent in Cook County, while Lake County public open spaces tend to form “islands.”
- There is little public open space in the watershed north of Route 176.
- Most public open space appears to lie within the Skokie River and Middle Fork subwatersheds, with little present in the West Fork subwatershed.

Figure 2.9: Recreational Use Type

North Branch Chicago River Watershed



Inventory Findings — Greenways

A key part of this open space plan is the existing and potential greenway systems in the North Branch watershed.

By their linear nature, the forks of the North Branch and their adjacent open lands form corridors that are the remnants of the natural wetlands and drainage system that once existed in the watershed. Past preservation efforts have largely saved much of these corridors as **greenways** (Figure 2.10).

In fact, the entire length of all three forks might be considered existing greenways, since the drainage districts hold fifty-foot flowage easements prohibiting any development therein for the entire length of these forks. Vegetation of varying quality grows on these easements, although in places it is only mowed grass.

Greenways serve many functions. For purposes of this report, they provide a linear passageway for plants, animals, people, and water, including the sediments and chemicals therein. They also provide a **riparian zone** to cleanse waters flowing into the streams by trapping sediments and toxins, as well as keeping streambanks stabilized.

Because of their linear nature, greenways provide important “edge” habitat, a transitional area between two types of landscapes. Greenways also help reverse the phenomenon of fragmentation by providing connections between existing open space/natural area holdings. Fragmentation occurs slowly as a landscape is developed, reducing over time what was once a continuous natural landscape to isolated pieces of remnant natural areas. Many plants and animals essentially become “trapped” in these fragments and are unable to migrate to other open spaces. Over time this can lead to population stress and loss of diversity.

Greenways are also well suited for outdoor recreation, particularly for multi-use trails and water-based sports such as canoeing. They can also provide flood protection by preserving floodplain as open space.

Large sections of protected greenways already exist throughout the watershed. The longest one is found on the Skokie River in Cook County, assembled by the forest preserve district in the early part of the last century (*note protected greenways are shaded purple in Figure 2.10*). Another greenway of nearly equal length has been assembled over the last 30 years along the Middle Fork through Lake Forest, Bannockburn, and Highland Park (Figure 2.11). A shorter segment runs along the Skokie River through Lake Forest and Lake Bluff.

Thus, in general, observations about the greenways would be similar to those noted under comments on recreational use type: most greenway land is found along the Skokie River and Middle Fork subwatersheds, following the streams themselves in a north-south pattern.

Greenway: a corridor of land intentionally preserved to protect natural or cultural features, provide recreation and trail opportunities, preserve wildlife migratory corridors, and enhance the quality of life in neighborhoods and communities

Riparian zone: the area surrounding a stream, including the channel itself and adjacent banks.

Figure 2.10: Existing Greenways and Trails System with Protected Open Space

North Branch Chicago River Watershed

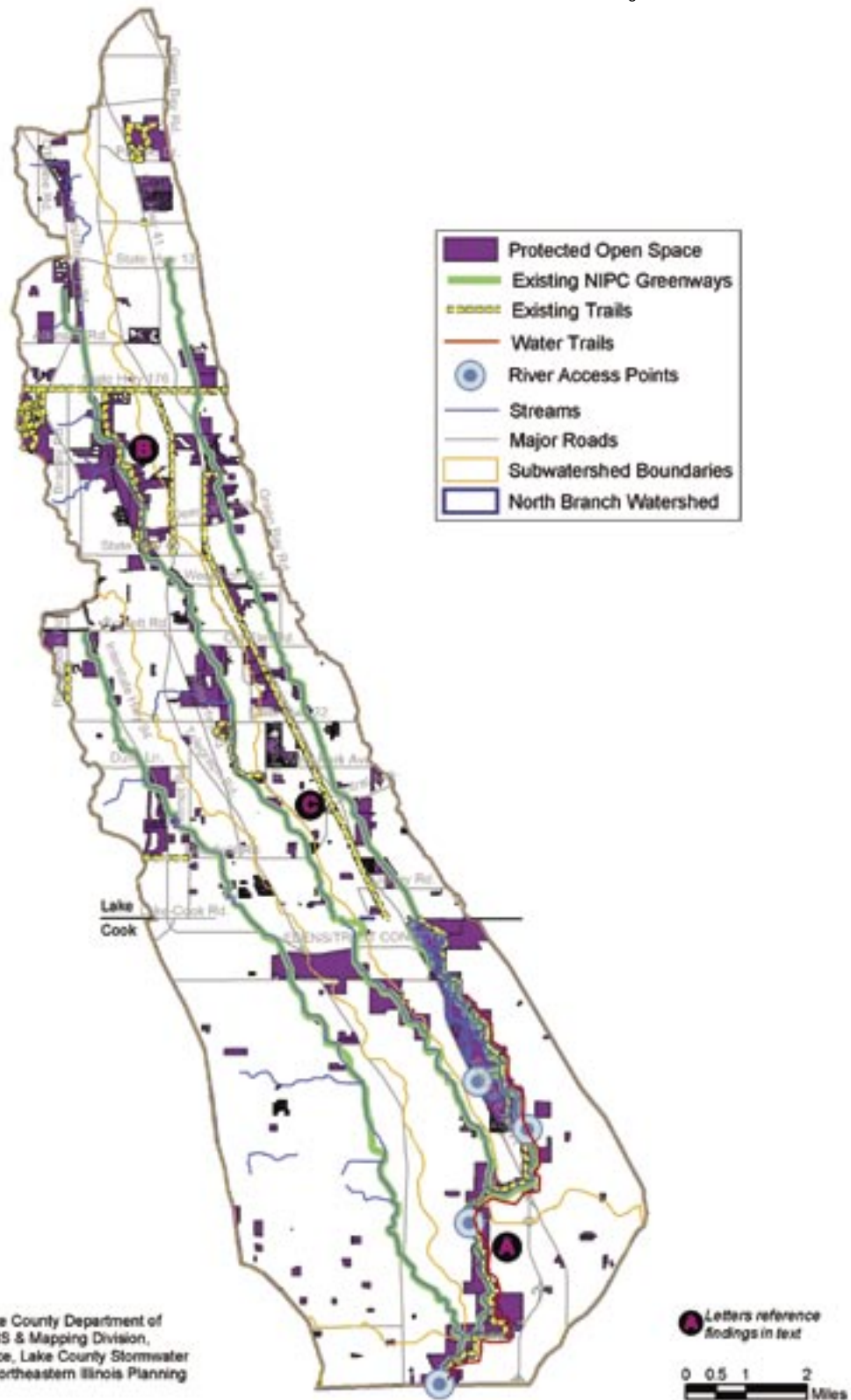




Figure 2.11: Middlefork Savanna
(June, 2003)

Inventory Findings — Trails

Trails have existed in the North Branch watershed for thousands of years. Today's major north-south highways such as Waukegan Road and Green Bay Road follow these ancient Native American trading routes.

Today, trails are used largely for recreational purposes such as walking, jogging, nature studies, bicycling and skiing. These activities are reflected in the various types of trails found in the watershed. The forest preserve districts in both counties, for instance, operate miles of wide, multi-use trails constructed of gravel or asphalt. These trails provide the experience of uninterrupted travel difficult to find in an urban environment. On the other hand, local open space advocates such as homeowner associations and land trusts may maintain narrow dirt trails covered at times with wood chips. Some of these trails may be less than a mile in length.

Trails are an important element of greenways because they allow linear connectivity between existing open space areas. However, the current trail system in the watershed is disconnected. The longest continuous segment is the multi-use trail along the Skokie River in Cook County, extending from Dempster Street to the county line (*Figure 2.10-A*). A second, smaller section of multi-use trail exists in the Middlefork Savanna in western Lake Forest (*Figure 2.10-B*). Finally, a section of trail using the long-abandoned North Shore Railroad right-of-way parallels Route 41 from Lake-Cook Road to northern Lake Forest, and extends west on Route 176 to the Des Plaines River Trail (*Figure 2.10-C*). There is also a designated "water trail" for canoeists on the Skokie River in Cook County.

Numerous local trail systems exist, such as the one around Prairie Wolf Slough and the extensive system connecting the Lake Bluff and Lake Forest Open Lands Associations (*these are not shown in Figure 2.10*).

Threatened: Any native species likely to become endangered within the foreseeable future throughout all or a significant portion of its range, or is designated “threatened” under the Endangered Species Act.

Endangered: Any native species whose continued existence as a viable component of the region’s flora and fauna is determined to be in jeopardy and/or is designated “endangered” by the U.S. Fish and Wildlife Service under the Endangered Species Act.

Illinois Natural History Survey (INHS): Founded in 1858, the INHS mission is to investigate and document the biological resources of Illinois and to acquire and provide natural history information that can be used to promote the common understanding, conservation, and management of these resources.

Illinois Natural Areas Inventory (INAI): Completed in 1978 and updated in 1995, the INAI is an Illinois Department of Natural Resources listing of all known lands and waters in the state that have significant natural values, support endangered and threatened or relict species, or are still sufficiently undisturbed to demonstrate what Illinois was like in pre-settlement times.

Inventory — Summary of Findings

Acreage

- The open space inventory identified 4,338 open parcels (16,962 acres).
- Of this, 1,103 parcels (8,528 acres or 14.1% of the watershed) are considered protected.
- The remaining 3,235 parcels (8,421 acres) are unprotected.
- To achieve the plan objective and protect 25% of the watershed (15,162 acres) as open space, an additional 6,634 acres of the remaining open space (8,421 acres) must be preserved.
- The open space inventory also identified 946 partially open parcels, 111 of which are considered protected.

Greenways

- Two large sections of preserved greenways are found along the Skokie River and the Middle Fork in Cook County, and along the Middle Fork in central Lake County.
- A shorter segment is found along the Skokie River in Lake Forest and Lake Bluff.

Trails

- The existing trail system in the North Branch watershed is disconnected.
- The longest major trail exists along the Skokie River in Cook County.
- A second, shorter trail exists on the Middle Fork in central Lake County.
- The former North Shore Railroad right-of-way in Lake County has been largely converted to trail use.

Biodiversity

Project Scope

Nearly a century ago a number of people — Herman Pepon and Henry Cowles, to name two — recognized and documented that Lake and Cook Counties are still home to some of the most diverse landscapes in Illinois. Living in these landscapes is a wide array of rare, **threatened** and **endangered** (T/E) plants and animals. Most of these have been extensively documented by the **Illinois Natural History Survey** and the **Illinois Natural Areas Inventory**, aided by a small group of dedicated volunteers continually on the lookout for rare and endangered species.

These high-quality natural landscapes owe their current preservation to three factors:

- Long-term protection by land conservation groups such as forest preserve districts and land trusts (Skokie River Nature Preserve, Lake Forest Open Lands).
- Lack of intense past use (agriculture in particular) because of marginal or poorly drained soils (Florsheim Woods, Village of Lincolnshire).

Noteworthy

Who's Rare?

There are five different species of threatened or endangered (T/E) animals in the watershed, and 17 different plant species. New ones continue to show up: a rove beetle, not seen since the 1930s, was found in 2003 at the Lake Forest Open Lands' Skokie River Nature Preserve.

— Long-term ownership by private individuals or institutions with no immediate plans to develop them ("Wrigley Tract," Abbott Laboratories).

Several steps were undertaken in this study to ensure that all important natural areas were identified:

Biodiversity

Biodiversity mapping reflects T/E species, INAI sites and INPC information compiled from and verified by local natural resource specialists (Figure 2.12).

Important Natural Areas

SMC originally used 1995 aerial photographs and other sources to identify 33 parcels as potential sites for open space protection (refer to the Watershed Plan). Some of these have since been developed. Subsequent detailed study by the project team using more recent aerial photographs, combined with locally-supplied information, increased this number to 35. These sites were then field-checked in Lake County (Figure 2.13). Refer to Appendix B (*Results of Biodiversity Fieldwork*) and Microsoft Access file for detailed site information and field notes.

Biodiversity: the totality of genes, species, and ecosystems in a region. For example, a healthy prairie community would normally include dozens of plant species as well as habitat for various species of birds, mammals, reptiles, amphibians, insects, mites, fungi, and bacteria. Within a region the size of the Chicago area, biodiversity can also be measured by the number and variety of natural communities that exist side by side in a given area, such as oak savannas, meadows, and wetlands. A high degree of biodiversity is normally an indication of a healthy, sustainable community, ecosystem, or region.¹

¹ Chicago Wilderness Biodiversity Recovery Plan, Chicago Wilderness, 1999, p. 6.

Figure 2.12: Biodiverse Areas

North Branch Chicago River Watershed

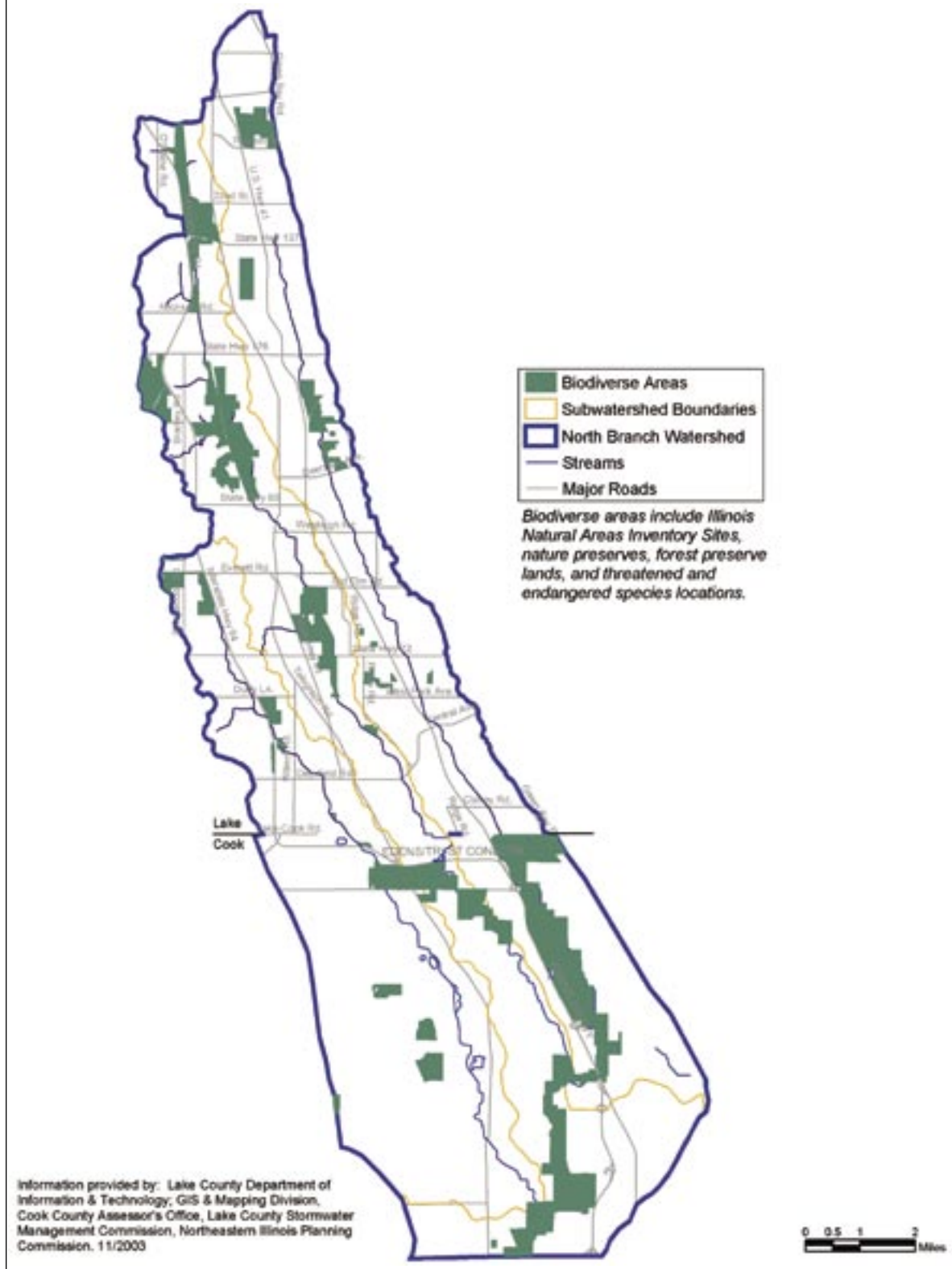
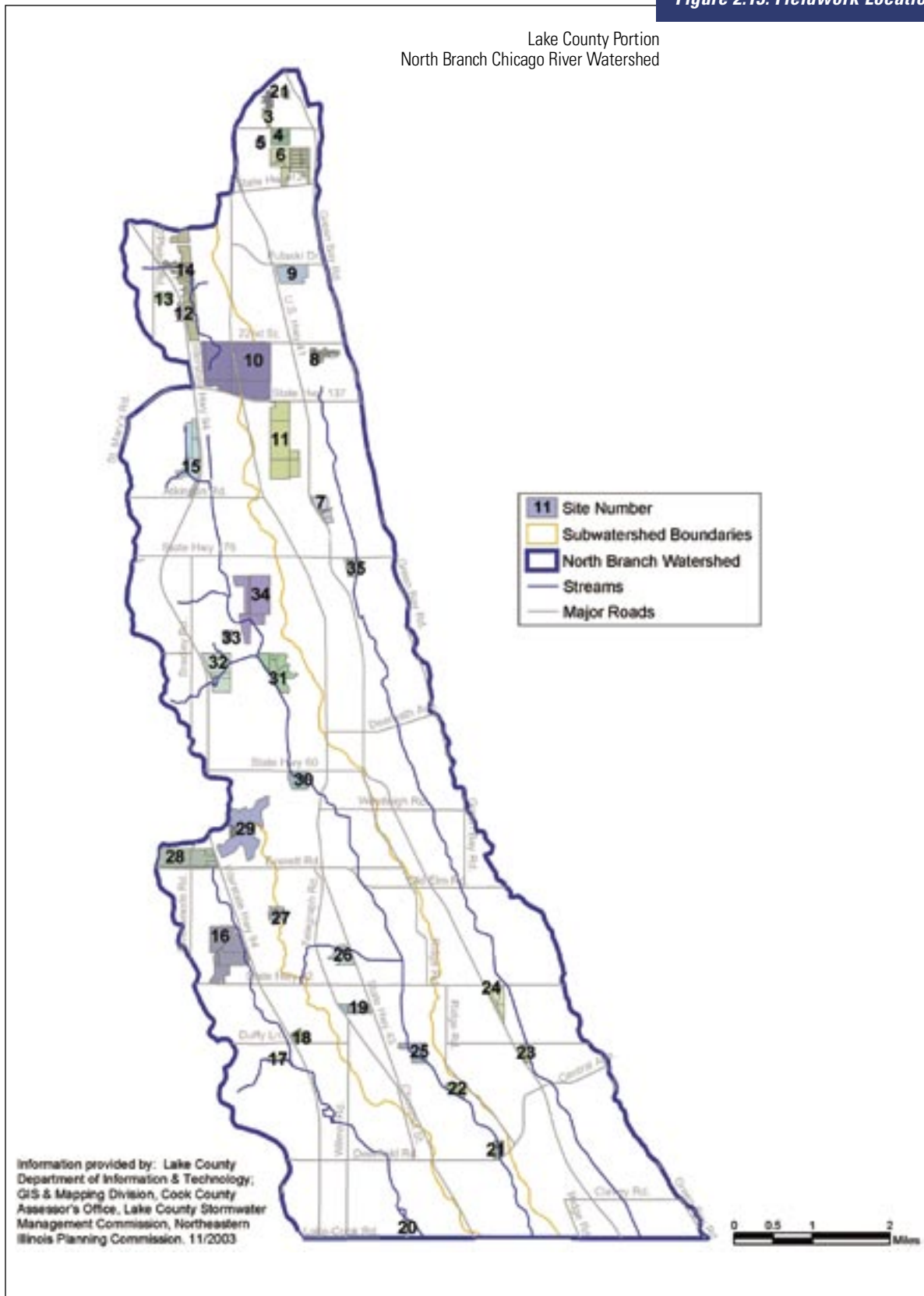


Figure 2.13: Fieldwork Locations

Lake County Portion
North Branch Chicago River Watershed



Biodiversity Findings — Threatened and Endangered Species

Many of the known locations of T/E species in the North Branch watershed are already protected on deed restricted open space: parcels owned by forest preserve districts, land trusts, park districts, and homeowner associations. However the project team reviewed and updated all T/E species maps with local biodiversity experts, and found four unprotected sites (22% of the total sites):

- The IDOT parcel south of Route 137: this land is owned by a public agency but is not necessarily guaranteed protection.
- The Wrigley Tract, located north of 137 between Waukegan Road and the Union Pacific Railroad (UPRR): a large corporate holding that could be developed.
- A detention basin area north of the Tri-State spur and west of the Union Pacific Railroad in Deerfield. Most of this site has been developed for Home Depot and a Metra station; T/E species were found living in the basin area.
- A parcel just east of Florsheim Woods in Lincolnshire, part of the Jarnowsky property that Lincolnshire is currently considering for development. The INPC and Village are currently negotiating with the developer to add some of this parcel to Florsheim Woods.

A larger question regarding the future health of these T/E sites is whether they are receiving proper land management. The Lake County Forest Preserve District, for instance, has been very aggressive in its management of T/E sites in the Middlefork Savanna, and Abbott Laboratories last year did extensive brush management work on a T/E site at the northwest corner of its property. This is contrasted, however, with spotty or non-existent land management on homeowner association lands and many of the T/E sites on the Forest Preserve District of Cook County lands.

Biodiversity Findings — Threats to Other Important Natural Areas

Of the aforementioned total field sites, 17 of 35 are already protected by public and private open-space groups and will most likely remain dedicated to conservation use. This would probably be true even for such parcels as the ones owned by the

Illinois Department of Transportation (IDOT), Deerfield High School and Lake Forest Open Lands, all of which could theoretically sell their land.

The remaining 18 privately owned sites have various commercial, industrial and residential zonings. Since over 40% of “potential open space protection sites” largely identified in the Watershed Plan in 1999 have been developed, it would seem reasonable that, absent protection, the remaining parcels will follow suit in the next decade.

IDOT owns a large parcel purchased decades ago to realign Route 41 in Lake Bluff and North Chicago (Figure 2.13, site number 11). Scattered wetlands throughout greatly diminish the buildability of this land or its usefulness for highway purposes. A site visit found wetland delineation work on this site, which may suggest that IDOT may be considering the area for wetland mitigation work rather than highway purposes.

The Lake Forest Open Lands Association owns 35 acres of oak savanna, all out of the floodplain and technically buildable, but this land is restricted to permanent open space uses in both the assessor and municipal records (Figure 2.13, site number 26).

Noteworthy

Remnant Landscapes

Part of this project involved assessing sites for evidence of original though degraded conditions. During field review of properties in Lake and Cook Counties, it became apparent there was a need to identify what this report calls “remnant landscapes” as well (*Figure 2.14*). Since most of the North Branch watershed has been extensively altered throughout the decades by filling, dredging, and ditching, the presence of original unaltered topography is worth noting.

Eighteen examples of remnant landscapes were located (*see Appendix B — Results of Biodiversity Fieldwork for detailed information*). These consisted of exceptional and well-known sites where both the topography and plant communities are largely intact — similar to the forest preserve holdings at Berkeley Prairie and Middlefork Savanna, for instance — to areas that, though having degraded habitat, still retained original landforms. Several examples are shown below (*Figures 2.15–2.17*).

Of the 18 sites, eight are unprotected. These would include less-intact examples such as a wetland complex located in Gurnee, only 100 yards from the watershed border, as well as the large and well-known prairie/wetland/savanna landscape on the “Wrigley Tract” bounded by Interstate 94 and Illinois Routes 43 and 137. This property also harbors the only remaining, non-ditched section of river channel in the entire North Branch watershed.

Figure 2.14: Remnant Landscapes

North Branch Chicago River Watershed

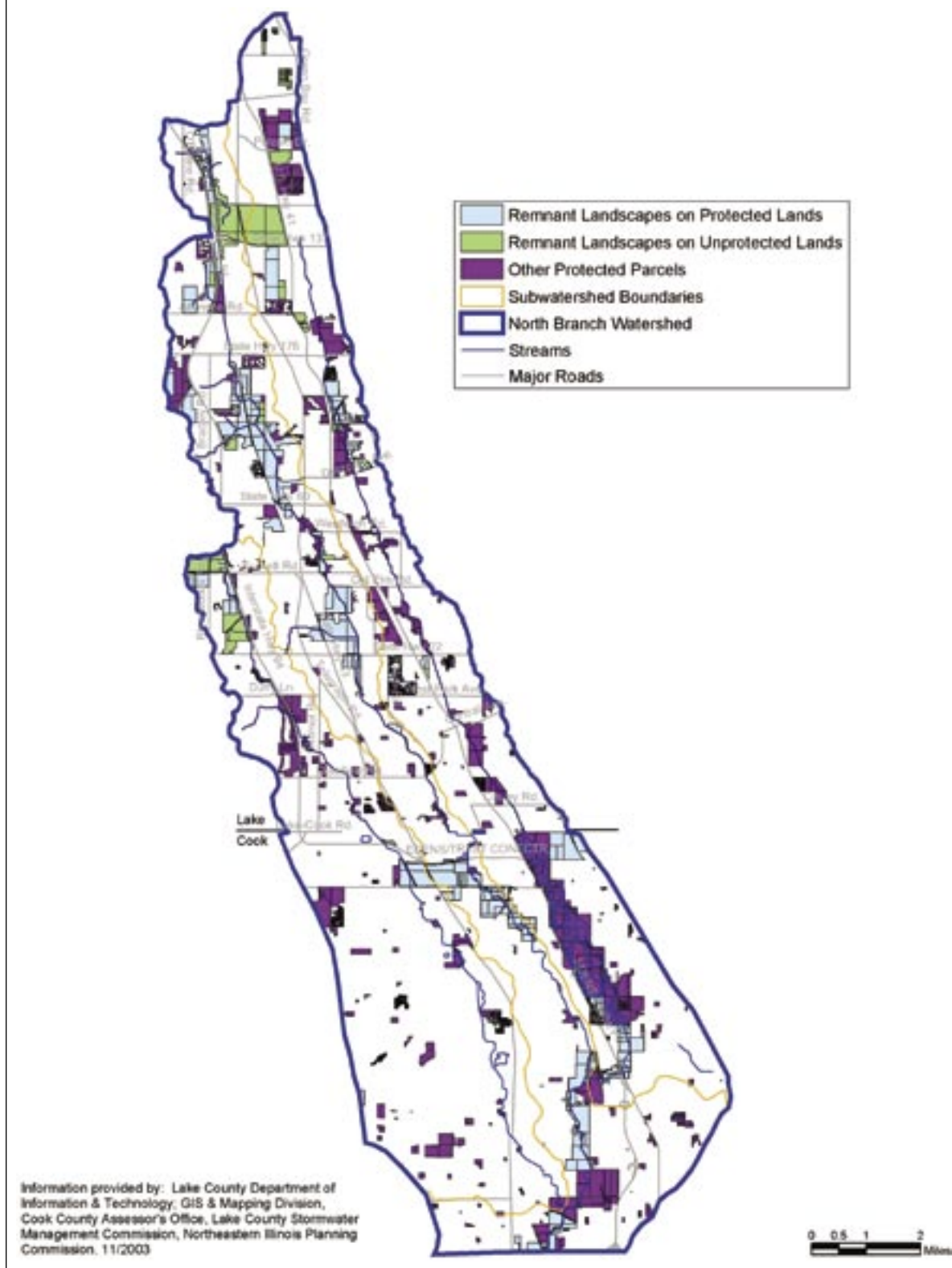




Figure 2.15: Remnant savanna/wetland complex at U.S. 41, south of the Elgin, Joliet, and Eastern railroad overpass (December 2002). Current land use proposals call for clear-cutting of site for development



Figure 2.16: Outstanding savanna/wetland landscape in Lincolnshire, currently under review for development (December 2002)

Biodiversity — Summary of Findings

Of the 35 potentially important natural area sites, 18 are still in private ownership and 17 in public agency or land trust hands. A disturbing trend is that of the 18 private open space tracts (some consisting of several owners), eight have been converted to other uses. Two additional parcels are being developed at the present time.

Many of the known locations of T/E species in the North Branch watershed are already protected on deed restricted open space: parcels owned by forest preserve districts, land trusts, park districts, and homeowner associations. However, proper management of these sites is inconsistent.

Eighteen sites with remnant landscapes (original unaltered topography) were identified during fieldwork. Of these, eight are unprotected.

Open Space Assessment and Prioritization (OSAP)

OSAP — Project Scope

The purpose of this project has been to develop an open space plan for the entire North Branch watershed, focusing on land preservation and subsequent land restoration and management. The ultimate goals of this plan are to:

- preserve open space in the watershed (*Goal 1*)
- reduce flood damage and improve water quality (*Goals 2 and 3*)
- protect high-quality natural areas and improve habitat (*Goals 4 and 5*)
- improve recreational and educational opportunities, and/or reflect community needs (*Goal 6*)



Figure 2.17: Savanna and wetlands in North Chicago (December 2002)

Floodway: Channel of a river or other watercourse and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot (Source: The National Flood Insurance Program).

Hydric Soil: Soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept. Soils in which hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics. (Source: USDA/NRCS)

Flood Problem Area (FPA): (As defined by LCSMC) is composed of one or more structures in a geographical area that are damaged by the same primary source/cause of flooding. Sources/causes of flood damage include overbank flooding; a local drainage system that has insufficient capacity; location in a depressional area in the landscape; or sanitary sewer backup.

FPA's have not been mapped on a county-wide basis for Cook County, IL. None of the communities in the Cook County portion of the North Branch watershed supplied the project team with this information.

Depressional Area: Area which is lower in elevation on all sides than surrounding properties (i.e., does not drain freely). A depressional area will fill with water when runoff into it exceeds the rate of infiltration into underlying soil. Large depressional areas provide significant stormwater or floodplain storage. (Source: Lake in the Hills, IL)

— integrate and coordinate open space protection at the watershed scale (Goal 7)

In order to meet the goals, every parcel identified as open or partially open was examined for its importance to an overall open space goal.

OSAP — Methodology

The project team worked with the planning committee to establish a system for prioritizing every open and partially open parcel based on the open space plan goals and objectives. This involved:

- Identifying prioritization criteria
- Grouping criteria by plan goal
- Completing the prioritization using the project geographic information system (GIS)

Prioritization Criteria

The following criteria were identified by the planning committee for use in prioritizing open space parcels and are worded as adopted. All are based on open space plan goals and objectives.

- Size of open space area (parcel adjacent to other undeveloped land).
- Size of parcel.
- Shape of open space parcel.
- Adjacent to forest preserve.
- Parcel designated for future development by community.
- In an area projected to develop rapidly.
- In an area underserved by existing open space.
- Connects existing open space areas.
- In floodplain.
- In **floodway**.
- Includes a wetland.
- Minimum 10-acre parcel that includes drained **hydric soils** (wetland restoration potential) (or minimum % of drained hydric soils if feasible — 50%).
- In a subwatershed where less than 10% of the subwatershed area is existing wetlands.
- Within 1-mile radius of a known **Flood Problem Area**.
- In a **depressional area**.
- Adjacent to a watercourse or wetland (streambank restoration, riparian or wetland buffer potential, or potential best management practices site).

- Adjacent to a **non-point source pollution hotspot**.
- Includes or is adjacent to a pollution point source (National Pollutant Discharge Elimination System (NPDES) permit site).
- In **groundwater (aquifer) recharge area**.
- Adjacent to or includes a high-quality wetland (**Advanced Identification — ADID**).
- Within 0.5 miles of headwaters.
- Adjacent to or includes a high-quality natural community (Illinois Natural Areas Inventory(INAI)/Illinois Nature Preserve Commission (INPC) sites or other source of study results).
- Adjacent to or includes threatened and endangered (T/E) species habitat (as indicator of high biodiversity).
- Traversed by, adjacent to, or within 0.25 mile of a Northeastern Illinois Planning Commission (NIPC)–designated greenway.
- Traversed by, adjacent to, or within 0.25 mile of a NIPC–designated or community trail.
- Identified as an open space need by a watershed community.
- Includes archeological site, historic building or cultural site.
- Adjacent to or within 0.5 miles of a school.
- Adjacent to an existing public facility.

Prioritization Criteria by Plan Goal

The criteria listed above were then evaluated for their current applicability in a Geographic Information System (GIS). Some criteria could not be evaluated at this time due to incomplete or inconsistent GIS data, while some were generally applied during the design of the greenway (and not used for GIS analysis). For a detailed discussion of prioritization criteria, see Appendix C (Open Space Prioritization Criteria).

The following list displays the criteria that were used in the GIS analysis grouped according to the individual project goals. Several criteria are included under more than one goal, thus affirming intrinsic connections between these goals. The criteria are worded as applied in the GIS.

Non-Point Pollutant Loading Hotspot:

A watershed sub-basin called a stormsewershed (based on stormsewer systems) likely to be contributing to the highest non-point source pollution loads. These areas were identified through a model which estimates pollution loading based on land use and annual surface runoff. (Source: Watershed Plan)

NPDES: Permitting program that regulates the discharge of pollutants into navigable waters from “point sources”—defined as any discernable, confined or discrete conveyance, such as pipes from industrial sites or sanitary treatment plants.

Groundwater Recharge Area:

Area which by nature of surface soil and underlying rock type is particularly important for allowing surface water to percolate to underground storage. (hyperdictionary.com)

Advanced Identification (ADID):

Planning process used to identify wetlands and other waters generally suitable or unsuitable for discharge of dredged and fill material. The ADID process collects and distributes information on the values and functions of wetland areas. USEPA conducts the process in cooperation with the USACOE and in consultation with States or Tribes. Communities can use this information to help them understand the values and functions of wetlands. It also serves as a preliminary indication of factors likely to be considered during review of a Section 404 permit application. (Source: USEPA)

Stormsewershed: Reflects the land area drained by a particular underground storm sewer system (network of storm drains). In urbanized areas, stormsewer systems can provide a more accurate picture of drainage patterns than topography alone. These stormsewer subbasins are referred to as “stormsewersheds” (Source: Watershed Plan).

Goal 1 — Preserve open space in the North Branch Chicago River watershed.

- A. Select parcels intersecting with or adjacent to forest preserves, land trust and township open space, etc.

Goal 2 — Reduce flood damage.

- A. Select parcels intersecting with floodplain.
- B. Select parcels intersecting with wetlands.
- C. Select parcels intersecting with drained hydric soils (at least 10 acres and 50% drained hydric soils).
- D. Select parcels in subwatershed with less than 10% in wetlands.
- E. Select parcels within 0.5-mile radius of a Flood Problem Area (FPA).

Goal 3 — Improve water quality.

- A. Select parcels within 100 feet of a watercourse.
- B. Select parcels intersecting with non-point pollutant loading hotspot **stormsewershed**.
- C. Select parcels intersecting with or adjacent to an NPDES permitted point source.
- D. Select parcels intersecting with wetlands.
- E. Select parcels intersecting with drained hydric soils (at least 10 acres and 50% drained hydric soils).

Goals 4 & 5 — Protect high quality natural areas as open space and protect/enhance habitat.

- A. Select parcels adjacent to or intersecting with high-quality (ADID) wetland.
- B. Select parcels adjacent to or intersecting with an INAI or Illinois Nature Preserve site.
- C. Select parcels adjacent to or intersecting with a T/E species site.
- D. Select parcels within 0.5 miles of stream headwaters.

Goal 6 — Improve recreation and education opportunities in underserved areas and for a growing population.

- A. Select parcels traversed by, adjacent to, or within 0.25 miles of existing NIPC trail.
- B. Select parcels intersecting with an archaeological site.

Goal 7 — Integrate and coordinate open space protection at the watershed scale.

No prioritization criteria were applied to this goal; it is addressed in the Action Plan and Plan Implementation chapters of this report.

GIS Prioritization Process

The GIS developed for this project was used to determine the relationship between each parcel and the prioritization criteria (*Diagram 2.1*). Parcels were given one point for each criterion present. For example, a parcel that is in the floodplain received a 1; a parcel that is not in the floodplain received a 0. This binary approach to weighting parcels was chosen by the project team because it is straightforward and objective: a condition is either ‘present’ or ‘absent’. Parcels with the highest scores meet the most criteria, and, therefore, represent the highest-priority open space preservation/management opportunities.

OSAP — Summary of Findings

A total of 17 criteria were applied to open and partially open parcels in Lake County and a total of 14 criteria were applied to parcels in Cook County. The difference in the number of criteria applied to Cook County was due to the following:

- ADID wetlands (information was not available for Cook County)
- Flood problem areas (information was not available for Cook County)
- Subwatershed headwaters (originate in Lake County)

Figures 2.18 – 2.20 show which parcels are most important for individual project goals and Figure 2.21 shows which parcels are most important for all criteria. Point totals were grouped into three categories (low, medium and high) using the Jenks Natural Breaks Method to more easily distinguish priorities (i.e., which parcels are most important for flood reduction). These findings were used to develop the site-specific management recommendations included in Chapter 4, and to design the proposed greenway and trail system. Detailed maps of prioritization results are included with these recommendations in Chapter 4, “Planning Area Management Recommendations.”

Prioritization Process

North Branch Chicago River Open Space Plan

How the prioritization of open space works:

A number of criteria were developed for each goal of the open space plan. In the prioritization process, if a parcel meets a criterion it gets a “Yes” or one point. If the parcel does not meet that criterion, it gets a “No” or zero. This process is repeated for each parcel for all criteria.

For example:

Criteria #1: Is the parcel in the floodplain?



Criteria #2: Is the parcel within .5 miles of the headwaters?



Criteria #3: Is the parcel within .25 miles of an existing trail?



Total points: A higher point total indicates a higher priority parcel.



Diagram 2.1: How the Prioritization Process Works

Figure 2.18: Prioritization Results for Goal Number 2: Reduce Flood Damage

North Branch Chicago River Watershed

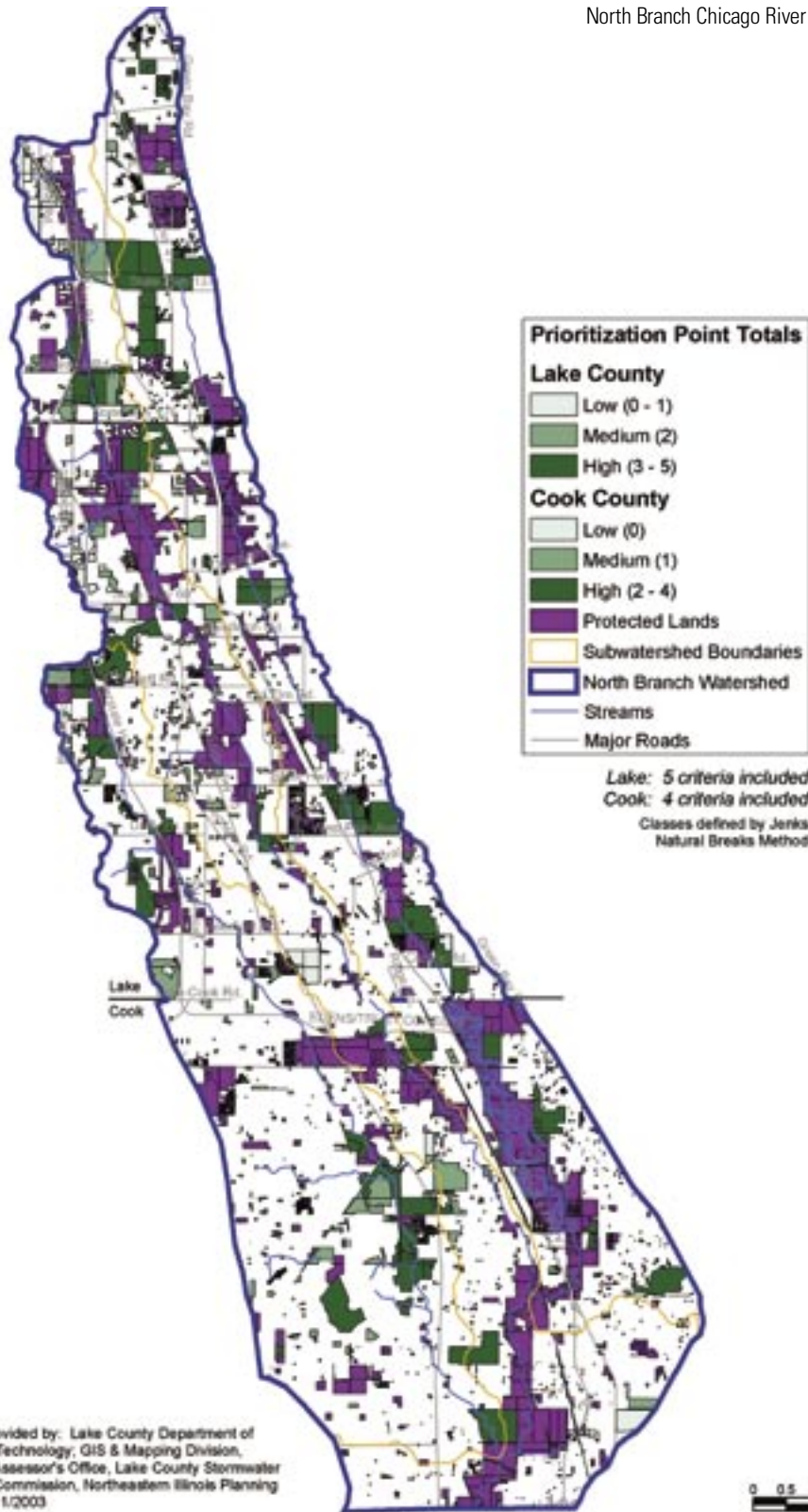


Figure 2.19: Prioritization Results for Goal Number 3: Improve Water Quality

North Branch Chicago River Watershed

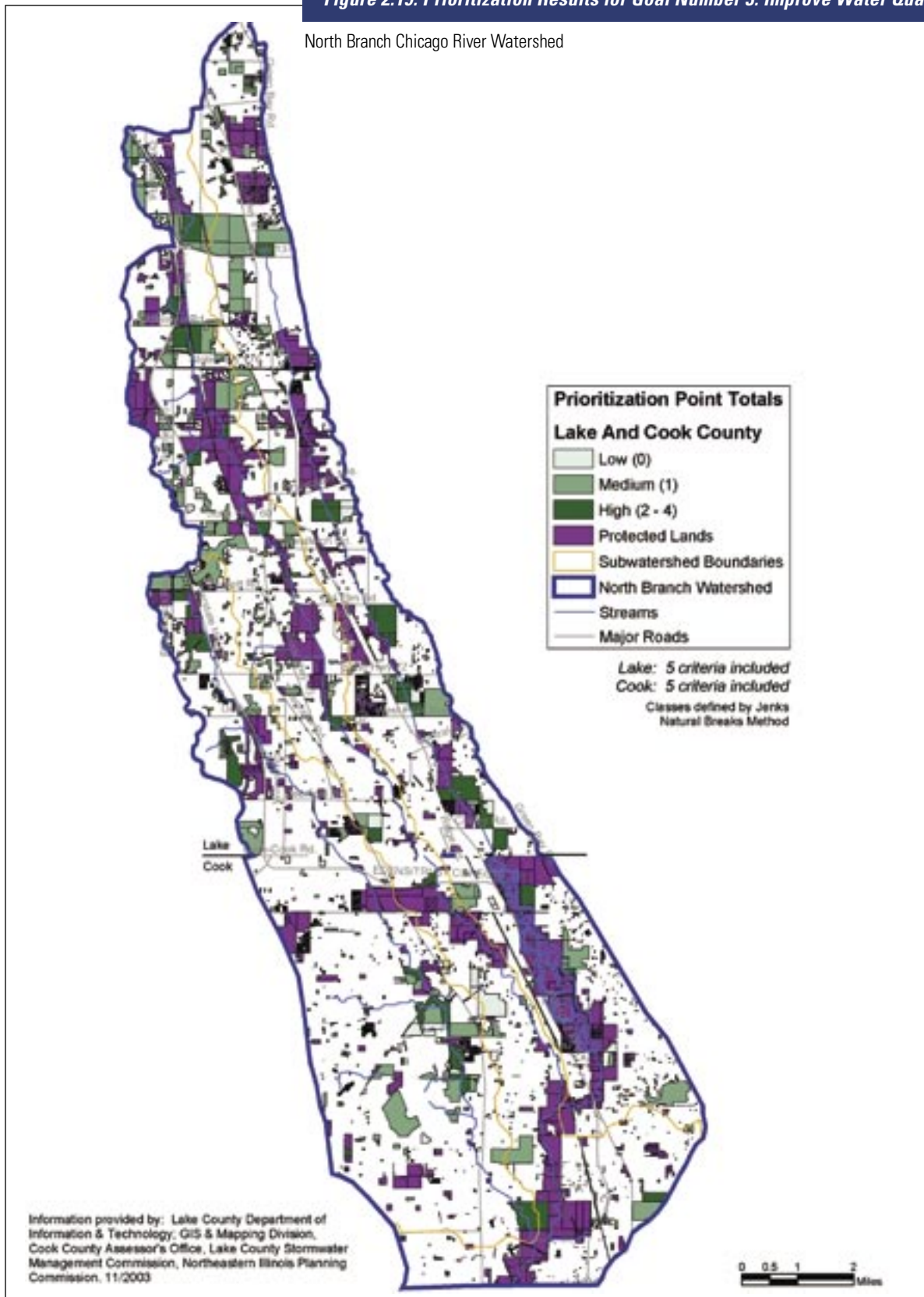


Figure 2.20: Prioritization for Goals 4 and 5: Protect High Quality Natural Areas and Improve Habitat

North Branch Chicago River Watershed

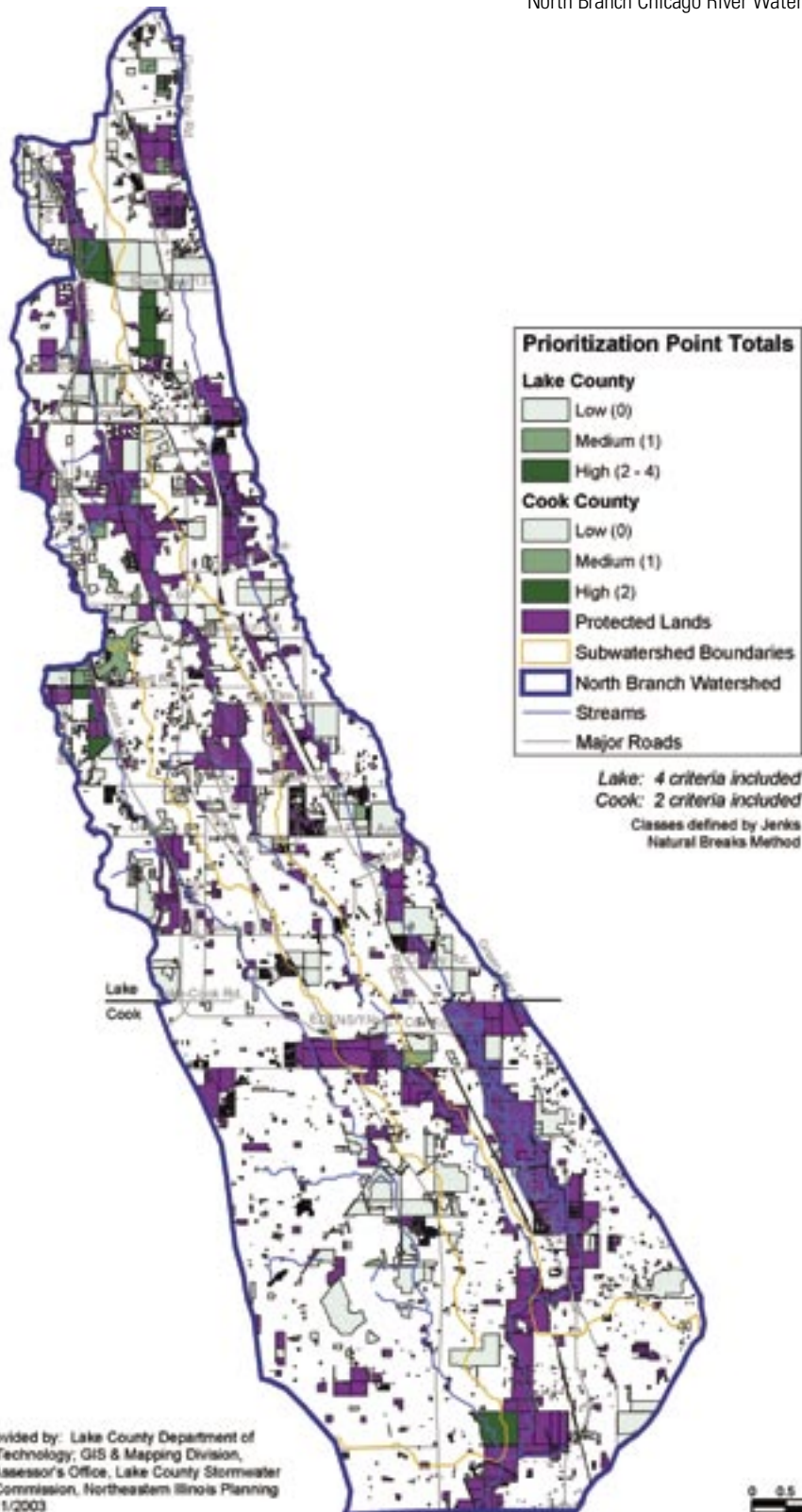


Figure 2.21: Total Prioritization Results

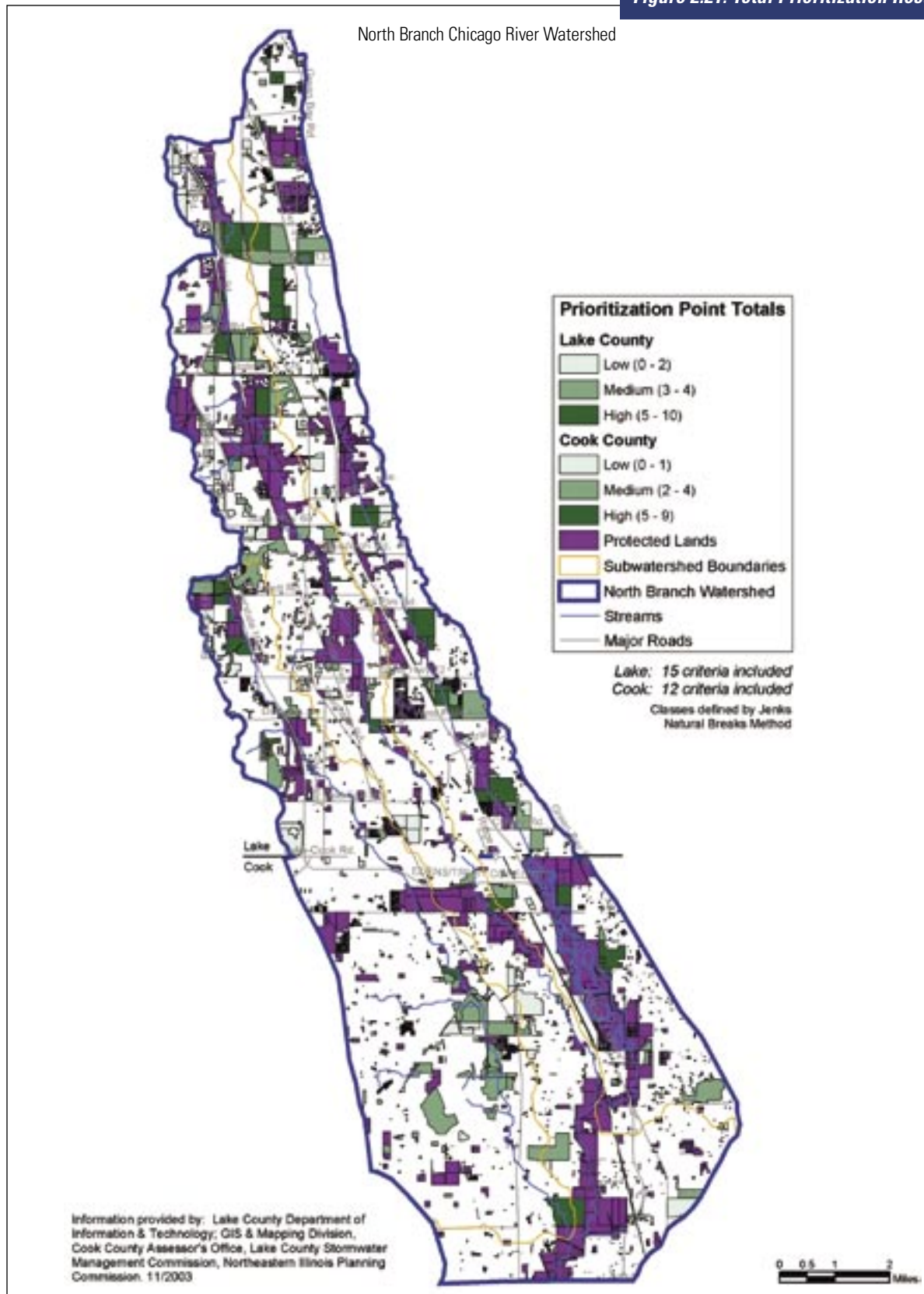


Table 2.8 shows the number (and acreage) of high, medium and low priority open parcels for the total prioritization.

Table 2.8: Total Prioritization — Number and Acreage of Open Parcels

	Lake County		Cook County		Watershed	
Priority Category	# of Open Parcels	Total Acreage	# of Open Parcels	Total Acreage	# of Open Parcels	Total Acreage
High	303	4,303.16	224	3,406.86	527	7,710.02
Medium	845	3,748.96	766	2,382.10	1,611	6,131.06
Low	1,306	2,221.61	896	899.18	2,202	3,120.78

Table 2.9 shows the number (and acreage) of unprotected open parcels in the high, medium and low categories for the total prioritization. Table 2.10 shows the percentage of unprotected open parcels in the high, medium and low categories for the total prioritization. There are a significant number of high and medium priority unprotected open parcels in both counties. These parcels require immediate action to protect, refer to Chapter 4 for parcel-specific management recommendations.

Table 2.9: Total Prioritization — Number and Acreage of Unprotected Open Parcels

	Lake County		Cook County		Watershed	
Priority Category	# of Open Parcels	Total Acreage	# of Open Parcels	Total Acreage	# of Open Parcels	Total Acreage
High	133	1,704.52	29	506.25	162	2,210.72
Medium	610	2,165.14	594	1,552.58	1,204	3,717.72
Low	1,086	1,767.30	785	738.29	1,871	2,505.59

Table 2.10: Total Prioritization — Percentage of Unprotected Open Parcels

Priority Category	Lake County	Cook County	Watershed
High	39.61%	14.86%	28.67%
Medium	57.75%	65.18%	60.64%
Low	79.55%	82.11%	80.29%

Conclusions

The open space inventory identified 4,338 open parcels (16,962 acres). Of this, 1,103 parcels (8,528 acres) are considered protected. The remaining 3,235 open parcels (8,421 acres) are unprotected. The open space inventory also identified 946 partially open parcels, 111 of which are protected.

These findings suggest that it is possible to achieve one of the primary objectives of the open space plan: protect 25% of the watershed (15,162 acres) as open space. They also suggest that there are opportunities to preserve and buffer core natural areas and greatly expand the existing open space network. This network could be connected together with an extensive greenways and trails system.

The North Branch watershed is also rich in biodiversity and contains a number of core natural areas such as the Middlefork Savanna. The open space prioritization identified open parcels that can protect and enhance these natural areas. The prioritization also identified which parcels are most important for each of the different plan goals. Chapter 4 identifies how these and other parcels can be arranged into a greenway and trail system and provides many parcel-specific protection and management recommendations.

These are, however, fleeting opportunities. A number of parcels originally identified at the beginning of this project as ‘open’ have since been developed, thereby decreasing the amount of open space. Additionally, many parcels are located in key positions such as adjacent to a natural area or in a chain of parcels connecting two natural areas. As these parcels are developed, opportunities to achieve plan goals and realize a vision for the watershed will diminish.

